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ABSTRACT

This excerpt from a newsletter presents an interview with Robert Lee Chartrand, senior specialist in information policy and technology for the Congressional Research Service of the Library of Congress, on issues related to information technology and the U.S. Congress. A brief biography of Mr. Chartrand presents his major professional experience, including 19 years as an advisor to the members and committees of Congress, and responsibility for maintaining a liaison with information systems oversight and development groups in the Senate, House, and other legislative branch elements. Mr. Chartrand responds to questions regarding: (1) the organization and functions of his office; (2) other existing avenues of advice for congressional members on technological issues; (3) the level of technological sophistication of the average member of Congress; (4) kinds of informal information organizations on the Hill; and (5) current issues of information technology being considered by Congress, such as technology in emergency management, technology in developing countries, computer crime, and financial support for increased technology in education. The interview concludes with brief descriptions by Mr. Chartrand of three existing computing centers--HIS (House Information Systems), the Senate computer facility, and the Library of Congress--and the trends he sees toward creation of local area networks, use of facsimile transmission, and increased utilization of videotex systems. (JB)

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GOVERNMENT COMPUTER NEWS

THE NEWSPAPER SERVING COMPUTER USERS THROUGHOUT THE FEDERAL GOVERNMENT

July 5, 1985 Volume 4 Number 12

Chartrand:

Congress More Computer Literate

GCN Interview

Would you explain how your office is organized and how it advises Congress on technology?

CHARTRAND: In 1966 a decision was made to create a new position within the Congressional Research Service, which is a support agency for the Congress. This senior position was to deal with the areas of information policy and the applications of various information technologies — computers, telecommunications, microform systems, audio and video devices — to the needs of the leadership of both houses, the committees and subcommittees, the members of Congress and even indirectly those constituent needs that were brought to the Hill.

Having come from industry and having fresh in my mind many of the new information support systems utilizing computers for such applications as legal information retrieval or medical information retrieval and so forth, it seemed imperative that we not only respond to questions from the Congress, but that there also be some type of "educational" process by which we alerted members and staff to the potential of these various kinds of advanced technologies, or what Winston Churchill used to call the "wizard machines," which I thought was particularly an apt phrase.

We found that passage of the Legislative Re-Organization Act of 1970 gave us a formal focal point for considering the ways in which some of these new technologies could be used by Congress itself. So through a series of discussions and deliberations and

even in a few cases bills being introduced and hearings being held, there was a filtering process that eventually led to a situation in 1970 where there were essentially three types of information support facilities: the computer centers in the House and Senate and the Library of Congress.

What about advice on individual issues?

CHARTRAND: We find that the requests from a member usually take three different forms. One is simply that a member or a staff person will encounter some reference in the public media to a given topic which involves information technology.

For example, on the current scene there might be something to do with computer crime and fraud, or it might be the use of computers by InterPol in tracking terrorist groups, or it might be the ways in which information services now are providing management techniques and tools for farmers in rural America. The range of issues is very broad.

The second way in which we often are called into a support capacity is where a committee or a subcommittee has decided to look at an issue, such as the improvement of our educational system in the United States — one facet of which might very well be to examine once again the current role of computers or computer-assisted instruction in enhancing the educational posture of our country.

And then finally, we have simply the interest of individual members. They may want us to look into an area and present a background paper or to assist them in the conduct of hearings or the structuring of a national workshop.

Does a member ever just call you with a question, wanting an answer right on the spot?

CHARTRAND: Many times. And I found when I first came to the Hill that many members told me that the last thing in the world they want is another memorandum.

You may recall that Woodrow Wilson said one time that he would rather spend a half hour with an author of a book rather than read the book. Well a lot of our members of Congress, because of time pressures, feel very much the same way.

On numerous occasions I have had members of the two chambers ask me to come over and sit down and talk about a given issue and not exchange papers. So it seems to me that this is one very, very important aspect of the way in which we function here.

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."



Robert Lee Chartrand

In his capacity as the senior specialist in information policy and technology for the Congressional Research Service of the Library of Congress, Robert Lee Chartrand performs in a dual capacity.

First, he has served for 15 years as advisor to the members and committees of the Congress, preparing general studies and special seminars and conducting consultations focusing on the application of information technology to the problems of government and society.

Secondly, he is responsible for maintaining liaison with information systems oversight and development groups in the Senate, House and other legislative branch elements. He has been instrumental in creating and stimulating numerous information systems and services using computers and microfilm technology within CRS.

His professional experience includes systems analysis and design with the Federal Systems Division, FBI Com. and Planning Research Unit. Early career experience includes service in a small company as a general management specialist and later as an analyst with the U.S. Federal Reserve as a member staff member for the study of a nation's future in energy and government.

Besides other formal avenues of advice, such as the Office of Technology Assessment or hearings set up specifically to gather information, are there other avenues of advice members use for technology issues, such as lobbyists?

CHARTRAND: Many of the lobbyist organizations, many of the professional societies, some of the special groups created by Congress, such as the National Commission on Libraries and Information Science, some of the not-for-profit organizations, such as Mitre Corp. out in Virginia, and certainly the executive branch agencies are called upon selectively by members.

Also, in a few cases we have members who have a special affiliation with a professor or a leading information industry figure in their own districts. And these people will be called in to play either in a formal or a highly informal consultancy capacity. And many times during my career I have found myself sitting down with the member and that advisor and working through an area of interest.

In general, how technologically sophisticated is the average member of Congress?

CHARTRAND: I would say that today the member of Congress as compared to, let's say, 20 years ago is of course far more sophisticated regarding the ways in which computers and various communications systems can be useful to him or her.

We do not have in Congress a large number of specialists, although there certainly are people who such as [Reps.] Charles Rose and Ed Zschau and other people who have a background in computers, such as Sen. Regal from Michigan, who worked for IBM, who are very, very knowledgeable about this area. Others have looked at the telecommunications area. Sen. Albert Gore, Jr., I understand wrote his honors paper on telecommunications policy. So we do have individuals on the Hill, among the membership, who have good credentials and some knowledge of the area.

Does the average member or staff director of a committee look for someone with a special talent or skill in office automation, computing or telecommunications systems?

CHARTRAND: I think increasingly that if you look at the Congressional Staff Directory, you will find men and women whose titles indicate that they have been chosen because they do have capabilities in these areas. I think also that the tremendous training and orientation effort put on by the House and the Senate and the Library of Congress through CRS has brought hundreds and hundreds of staffers up to a much higher level of efficiency and understanding of the role of information technology and, very specifically, how these things can be used.

Are there any kinds of informal organizations such as Capitol Hill PC users groups that meet regularly?

CHARTRAND: There are groups. For example, a number of years ago we created a staff working group made up of principals from the House, the Senate and the Library of Congress and one of the working elements of this staff working group was the Orientation and Training Task Force, which still continues to function and which serves as a mechanism for facilitating exchange of ideas and progress among the key staff members on the Hill.

Certainly with the advent of the PCs you have individual agencies such as the Congressional Budget Office, which is very, very active and has not only a group mechanism for talking about these things but also a newsletter. And Bob Harris, who is the lead technology person for CBO, has been very thoughtful and, I think, very far-sighted in encouraging this kind of exchange activity.

Let's turn to some specific issues of information technology that Congress deals with and is focusing on right now. Can you give us some idea, for instance, of how technology in emergency management has evolved as a matter of congressional interest?

CHARTRAND: I think that there is not only an unusual increase in the amount of attention being paid to emergency management and the role information technology on the Hill, but also nationwide. In 1981 the leadership role in this particular effort was taken by Congressman Al Gore, Jr., of Tennessee working very closely with Dr. Richard Beal, who at that time was the key White House functionary in this area.

During the period of 1981 through 1985 a series of legislative initiatives, including hearings and technical fora and a national workshop, were mounted in an effort to bring together from the leadership ranks of both the public and private sectors those individuals that understood that if emergency management — particularly in dealing with civil problems, both natural disasters and man-caused disasters such as toxic spills — was to be effective, then there must be a greatly heightened exchange of ideas and sort of a catalytic movement to bring these groups together and that we could not rely strictly on one or two agencies on the federal scene to carry this along.

Is there any willingness in Congress to provide funds for technology for the Federal Emergency Management Agency and state and local agencies, such as Congress has done in the past for law enforcement technology?

CHARTRAND: There has not been a formal effort along these lines, except through FEMA contracts of various sorts, and of course the really excellent training capabilities that they have up at Emmitsburg, Md. There is no question that there are groups in this country that would very much like to see significant sums of money made available for this kind of enhancement of capability at the state and local level.

Thinking about the recent natural disaster in Bangladesh and the problems getting aid to and information from the disaster areas, how would you characterize the sophistication of the technology use of the emergency management in this country?

CHARTRAND: Relative to the Bangladesh incident — where incidentally there was a warning provided by airborne sensors that a disaster was impending but in this particular case they were unable to move the people from the threatened area — I think that by and large we have come a long way in the last decade in terms of the employment of some of the advanced technology.

Certainly there are a number of airborne platforms such as the U-2 that can get extremely high resolution not only through conventional photography but infrared photography and radar to go over and determine, let's say, the amount of snow cover in the High Sierras and compare this to an earlier period. Or they can look at the known floodplain areas and in many cases anticipate very very accurately where the floodwaters will come. So in terms of the collection of information, there certainly are excellent capabilities in existence.

Now the creation of computerized data bases to collect and structure a lot of this information has also moved along. But the problem as was reflected in the Gore hearings is not, in most cases, the existence of key data in a computerized form but being able to know A, what is there and B, how do you access it in some reasonable amount of time.

Besides FEMA there are other agencies — the U.S. Geological Survey, NOAA, even the Veteran's Administration with its medical response capabilities, other groups — that came forward and participated significantly in the 1983 workshop held by the Gore subcommittee. I think that there were about 12 agencies involved, so a lot of these have collected data and gone to great expense to index it and put it into a computerized form.

That is one part of the problem; the other

part is, of course, making the community of some 12,000 emergency managers aware of what is there and how you go about getting a hold of it.

Turning to computer crime, how do you see the legislative trend for this year in Congress now that it has begun work to amend the law passed last year?

CHARTRAND: A number of bills have been introduced in both chambers to consider this matter of computer crime and fraud and related concerns. I think that most knowledgeable observers would agree that this is an evolving problem in two senses. One is the seriousness and the scope of the problem, which still is very imperfectly understood.

And secondly, the fact that in order to cope with this and at the same time to, for example, preserve certain degrees of privacy or protect intellectual property, there has to be a major educational process for the people that are involved, whether it be in the banking community, in the corporations, those in publishing; it runs a full gamut.

And I think that some people have tended to oversimplify the problem, and this, I think, is going to be strictly an evolutionary process. I think you will find a number of measures passed over the next several years, and in some cases a first step may not necessarily always be the completely satisfactory answer to a given problem in computer crime.

Given the complexity of the issues that are lumped under computer crime, is it your opinion that Congress ignored the complexity or didn't understand it, or did Congress feel last year that it had to get something on the books in the beginning?

CHARTRAND: I think that the latter would be the case. I think that it was imperative that there be a first tangible step taken in order to instill some confidence on

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the part of those affected either presently or potentially that the Congress was going to move.

I think secondly that the complexity of a topic perhaps surprised a great many people, and it was realized, once they had gone beyond the surface, that what had to be done would require far more study of the topic and that they could not simply plunge ahead without doing this.

Do you think that there will be another law this year? Maybe the next step taken this year, or a little longer?

CHARTRAND: I think that there is a good chance that in this Congress, next year and a half, that you will see some sort of final action taken. But again, even as important as this area is, you're buying on the priority list with a lot of other areas that are taking the legislator's time, which is an obvious statement. But I think that that is very true.

Is it an adequate approach to pass incomplete legislation or less than comprehensive legislation while Congress educates itself?

CHARTRAND: I think that is a traditional approach on Capitol Hill. I can remember that in the housing area that Senator Percy made the comment a number of years ago that they attempted to get something that would be a starting point on the books with the full realization that better, more complete legislation would have to follow. And I think that this is not an exceptional approach at all; I think this is the kind of approach that they can live with.

Let's turn to education and technology. How concerned is Congress or active in the question of providing modern technology for education?

CHARTRAND: I think there is a significant amount of interest. We've had two kinds of initiatives undertaken in the last four to five years. One was a strong resurgence led by Rep. George Brown of California and Rep. Paul Simon of Illinois — now Sen. Simon — which led to the convening of a national workshop which looked broadly at the various aspects of the way in which information technology, particularly computers, could be used in the educational process. And this was considered to be a very successful undertaking. A major report was prepared for the Congress by CRS, and I think that this was the first major overview of this kind of topic in a number of years.

Some people will recall that it was in the early 1960s when the first spurt of interest in computer system instruction came along and that there were a lot of great expectations that were dashed because the equipment was too expensive, the software wasn't suitable and of course there was militant resistance among the groups that had to take the new devices and integrate them into the educational process.

I think that the other side of the present-day congressional interest has to do with ways in which both hardware and software can be brought to the educational community either through gifts or subsidization or special grants or federal aid. And this is also true in terms of providing special kinds of software, because there has always been a lot of concern about the quality of what some people call course ware.

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Given the budget situation and the fact that the states have always had primary responsibility for public education, is there any hope Congress would provide money for PCs in school, for demonstration projects, course ware or things like that?

CHARTRAND: I think it is conceivable but there might be some demonstration projects on some type of highly selected basis, but I think that your observation about the state carrying the primary responsibility will continue, certainly with the continuing decrease of costs in hardware and software and the fact that, again, the general climate and acceptance of computers in the educational settings is permeating the country.

You will find, I believe, not only the states but a lot of local school systems, county systems, are showing a willingness to invest hard-earned money in this kind of capability. And of course the other part of that is that some of the colleges now have a requirement that incoming freshmen have their own small computers.

Well, it seems that every school district is trying to get computers. Is there any hope they can get money from Congress for that?

CHARTRAND: I think that, across the board, it is going to be a very, very difficult time for that kind of thing. I am sure there are members that would in principle very much support this kind of thing, but I think that the general budgetary climate works against it.

Getting back to the question of computing on Capitol Hill, can you look back over the 20 years that you've been here and give us a brief idea of how things have changed?

CHARTRAND: I think that it would be fair to say that if you went back 20 years, as a member of Congress, you had on the House side a staff of roughly 11 people, and you had certainly some type of copying machine, and you had the telephones and typewriters. I think with only a few exceptions did you have anything even like a punch card input system.

Today you have in that same office probably 18-20 people, depending on how the

member chooses to spend the money, you have in virtually every case on both the House and Senate side anywhere from one to five or six computer terminals. And now with the introduction of the PCs, you have those also brought in.

Overall the amount of money being spent in the Hill, I think, is indicative of the commitment made by the leadership of the House and Senate. In fiscal 1970 a total of \$4.8 million was spent; in fiscal '84 the sum was something over \$73 million. We have on the Scorpio system more than 2,000 terminal addresses that we know that we are servicing.

You mentioned the three computing centers: HIS, the Senate and the Library of Congress. Can you briefly run down what each one of those does, how they are different?

HARTRAND: The Senate computer facility, I think, numbers something over 200 people and provides a variety of services to the members and staff in the Senate. Probably one of the best known areas of activity is the addressing and mailing, and this has been in existence in various forms for more than 20 years now. They also are involved, of course, in the House/Senate CRS service known as Legis, which keeps track of the content and status of all pending legislation developed over the last 10 to 12 years and is considered very, very useful.

House Information Systems, which is headed by Boyd Alexander, has a staff of about 225 people and provides a variety of support services to the members and the committees of the House. Among these, to illustrate, would be keeping track of the legislative calendars of the committees, what action took place within a given committee's jurisdiction on a daily basis.

And the Library of Congress, primarily through its Scorpio system, has been able to service the membership through, for example, the storing and access to a lot of the major issues. There are some 400 issue briefs on key topics that have been computerized and are kept updated; these are made available to the members of Congress.

There is a very, very elaborate bibliographic citation file whereby the CRS staff keeps track of several thousand publications contents and makes these available throughout a current awareness program to member offices that subscribe to that service. And they have an arrangement whereby a computerized form of the Congressional Record is available for review by member offices.

What trends do you see in computing on the Hill?

CHARTRAND: I think there's going to be a lot of effort paid to creating local area networks and to utilizing the best possible telecommunications capabilities, not only on the Hill but in terms of allowing the Hill to reach out to external services.

There is already quite a bit of that going around in terms of utilizing services such as those provided by Lockheed, BRS and NEXIS and others, which greatly expand the information resources available to the Congress.

Another area that I think you'll see pursued is the area of facsimile transmission. We have been seeking this for years. Twenty years ago when Xerox had its famous LDX system that was used by Southern Railways, some of the members were saying "why can't we have this?" Well, the answer was very simple; it was cost.

Today there is great hope that we could

rapidly transmit full page, either narrative or graphic material, from the CRS to a House office or a Senate committee.

I think there's also a real potential for various uses of videotex systems. Certainly there have been demonstrations along that line on the Hill. And certainly as fiber optics are used more universally we will be able to upgrade some of the communications capabilities that we have here.

What do you see working on personally in the next few years?

CHARTRAND: In some cases we have recurring focal areas. Many of the issues that we have already talked about, such as the educational technology issue, have come back. For example, the White House conference on Libraries and Information Science, which was a absolute milestone bill enacted in 1979 is already resurfacing as a plan for a 1989 version to see that the impetus that began five years ago is not lost in the next five years.

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